



Examination of Special Competence in Advanced Perioperative Transesophageal Echocardiography (Advanced PTEeXAM®) Handbook

Thursday, July 22, 2027

Apply online at www.echobords.org

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Advanced PTeeXAM® Registration Fee and Important Dates

IMPORTANT!

Registration will end promptly at 11:59 PM EST on Thursday, May 13, 2027.

*** No exceptions will be made. ***

Registration Fee..... 1,295 USD

Requests for Special Accommodations	Thursday, May 13, 2027	Examination Date	Thursday, July 22, 2027
Refund/Cancellation Deadline.....	Thursday, June 10, 2027	Scores Posted (email notification)....	Approximately 10-12 weeks following the exam date

Examination Administration Grievance Policy. See page 7 for more details.

Introduction

National Board of Echocardiography, Inc.®

The National Board of Echocardiography, Inc. (NBE) was formed in December 1998. The NBE is a not-for-profit corporation established to:

- develop and administer examinations in the field of Perioperative Transesophageal Echocardiography,
- recognize those physicians who successfully complete the Examination of Special Competence in Advanced Perioperative Transesophageal Echocardiography (Advanced PTEeXAM), and
- develop a board certification process that will publicly recognize as Diplomates of the National Board of Echocardiography, Inc. those physicians who have completed training programs or significant practice experience in the perioperative care of surgical patients with cardiovascular disease and in advanced perioperative transesophageal echocardiography (TEE), as specified in this application, and have additionally passed the Advanced PTEeXAM.

The examination and board certification in advanced perioperative transesophageal echocardiography is not intended to restrict the practice of echocardiography. The process is undertaken, rather, in the belief that the

public desires an indication from the profession regarding those who have made the effort to optimize their skill in the performance and interpretation of cardiac ultrasound.

The first examination in perioperative transesophageal echocardiography was given under the auspices of the Society of Cardiovascular Anesthesiologists (SCA) as a field test in 1997. An examination of perioperative transesophageal echocardiography was given in 1998, again under the SCA, and annually since then under the NBE. Physicians who successfully passed the exam were certified as having successfully completed the perioperative transesophageal echocardiography examination. Board certification was not granted since applicants were not requested to supply information regarding successful completion of training dedicated to the perioperative care of surgical patients with cardiovascular disease nor completion of special training in perioperative transesophageal echocardiography. With a mature and well-tested examination, a well-defined body of knowledge, published training guidelines, and published continuing quality improvement guidelines, the NBE began offering board certification in 2004.

Eligibility

Advanced PTEeXAM

Candidates for the Advanced PTEeXAM must provide proof that they can practice medicine (MD, DO, MBBS, etc.). Please see the examination eligibility requirements below:

North American Trained Physicians must submit **ONE** of the following:

- A valid (unexpired) license to practice medicine with expiration date
 - Training or temporary licenses with valid expiration dates are accepted
- Letter of Good Standing from ACGME Accredited program director
 - Letter must be on official letterhead, be signed by director and be notarized.
 - See Sample Letter of Good Standing [here](#).

Non-North American Trained Physicians must submit **ONE** of the following:

- A valid (unexpired) license to practice medicine with expiration date
- If your license does not contain an expiration date, you will need **ONE** of the following:
- An original letter from the Medical Council stating your license is permanent
OR
 - An original certificate of good standing dated no more than 12 months prior to date application received.

All documentation must be supplied in English. If original documentation is not in English, a certified translation must be attached to each document. The examinee will be responsible for all costs associated with certified translation. Please allow yourself appropriate time if you need to obtain your medical license from a third party or translation is necessary.

NOTE: Only a copy of the Applicant's current proof to practice medicine or a letter from current program director, completed application, and application fee are required in order to sit for the Advanced PTEeXAM. Documentation for certification is not required when registering to take the Advanced PTEeXAM, however, you may submit your certification documentation at any time after applying for your exam.

Testamur Status

For licensed physicians not meeting the criteria for certification, the NBE will continue to allow access to the examination. This is to encourage physicians to test and demonstrate their knowledge of advanced perioperative transesophageal echocardiography based on an objective standard and to allow the medical community the opportunity to recognize individuals who elect to participate in and successfully complete a comprehensive examination in advanced perioperative transesophageal echocardiography. Those who successfully pass the examination, will be granted Testamur status as having successfully completed the Examination of Special Competence in Advanced Perioperative Transesophageal Echocardiography of the National Board of Echocardiography, Inc.

Maintenance of Testamur Status

Beginning in July 2024, candidates who pass the initial Advanced PTEeXAM MUST enroll and participate in Maintenance of Testamur in Echocardiography (MOTE) the following January to maintain their status. There will be no cost for the first year. Starting the second calendar year, you must pay the annual 85 USD fee and complete MOTe requirements by December 31st annually. Please visit <https://www.echoboards.org/MOTE> for more details.

Certification

Licensed physicians who meet the criteria for certification may apply for certification at the time of application for the Advanced PTEeXAM. The certification application, checklist, and all required documentation can be submitted at any time but is not required to register for the Advanced PTEeXAM. The Certification Committee will meet to review completed applications for certification. Applicants will be notified in writing of the decision of the Committee. Review of application for certification will be contingent on successful completion of the Advanced PTEeXAM. Applicants will receive notification of the decision of the committee within the year.

Individuals who previously passed the Advanced PTEeXAM may apply for certification at any point in which they meet the clinical experience requirements as long as their Testamur status remains valid.

Application Details

Registration Fee and Refund/Cancellation Deadline

Registration Fee:
1,295 USD

Refund/Cancellation Deadline:
Thursday, June 10, 2027 before 5:00 PM EST

IMPORTANT!

Registration will end promptly at 11:59 PM EST on Thursday, May 13, 2027.

*** No exceptions will be made. ***

Confirmation of Receipt of Application

It is recommended that you submit your online registration as early as possible. Registrations will be verified and completed in the order in which they are submitted. We will make every effort to accommodate as many candidates as possible. Registrations that are incomplete, or do not include payment will not be processed.

You will receive a confirmation email from NBE once your medical license or letter of good standing has been received and verified.

Please allow 2-6 weeks after submission of your online registration and payment for this to be completed. **A valid e-mail address is required for confirmation.**

Refund/Cancellation Policy

Candidates who wish to cancel/withdraw their registration and receive a partial refund (exam fee paid minus 200 USD) **MUST** submit a written request to cancel/withdraw via email to examination@echoboards.org before 5:00 PM EST on Thursday, June 10, 2027.

Any requests received after this deadline will not be processed.

Deferments, postponements, and exam fee transfers are not available. We apologize for any inconvenience.

Submitting Applications

Please visit www.echoboards.org to complete the online registration.

If you have any questions, please contact NBE for assistance. Our information is below.

To contact our office:

Phone: (919) 861-5582

E-mail: info@echoboards.org

Web site: www.echoboards.org

*** NOTICE ***

It is **REQUIRED** to provide NBE with a copy of your appointment cancellation from Pearson prior to receiving a refund.

IMPORTANT!

Please remember to enter your name on the application in the SAME way as it appears on the unexpired, photo-bearing, signed, government-issued identification you will be using at the Pearson testing center. The name you provide on the application will be used to create the Authorization to Test (ATT). Discrepancies in your first and last names will cause you to be denied admittance to the examination. Middle name(s) or initial(s) are not verified at the test center on exam day.

Examination Information

Examination Date

Thursday, July 22, 2027

Pearson Professional Assessments: Test Center Information

The examination will be administered at Pearson Testing Centers globally. All Pearson Testing Centers are setup similarly. This not only helps enhance security, but also provides uniformity for all candidates. Workstations at all Pearson test centers available to host the NBE examinations conform to Board-approved specifications.

OnVUE®, Pearson's Online Proctored Platform

NBE now offers Pearson OnVUE® for all exams. Candidates may choose remote testing through Pearson OnVUE®, Pearson's secure online proctoring platform, as an alternative to in person testing. To learn more and review system requirements, visit here (<https://www.pearsonvue.com/us/en/test-takers/onvue-onlineproctoring.html>)

Candidates are encouraged to submit registrations early. Candidates will not be able to schedule their test until their registration is complete and their Authorization to Test (ATT) notification has been received.

Visit www.pearsonvue.com/nbe to search for Testing Centers by location.

Please see page 7 for Exam and Test Center Policies and Procedures.

Determining a Passing Score

Unscored Exam Questions

The exam contains 200 questions: 180 scored and 20 unscored. Unscored questions are not identified and are randomly distributed throughout the exam. A candidate's score is based only on their responses to the 180 scored questions.

Exam Results

The passing score is based on a minimum level of knowledge established by the NBE; candidates are not scored against one another.

Each candidate will receive a score report showing the minimum passing score and their performance in each major examination area. Total and section scores are reported only to the examinee.

Candidates who pass will be listed on the NBE Physician Verification page, including the year passed, city/state, and board certification status. The names of passing candidates will also be provided to the Society of Cardiovascular Anesthesiologists (SCA) and the American Society of Echocardiography (ASE).

Candidates will be emailed when their results are available in their NBE user profile. Certificates can be viewed, downloaded, and printed on demand.

Exam results will not be provided by telephone, email, or fax.

Scope of Practice

The application of an advanced perioperative TEE examination is to utilize the full diagnostic potential of perioperative TEE including direction of the perioperative surgical decision-making process.

Notification of Change of Mailing Address or Email

Please notify the NBE immediately if your mailing and/or email address has changed since applying for the Advanced PTEeXAM. Email is NBE's preferred method of communication; therefore, failure to do so will cause delay in receiving correspondence from the NBE. You may submit your contact information changes on your NBE Profile by logging into the website.

Special Accommodations

NBE will provide, upon approved request, reasonable accommodations necessary to afford an individual with a documented disability an equal opportunity to participate in the Advanced PTEeXAM. To support a request for special accommodations, you will need to upload supporting documentation in the online application. The documentation must:

- Be current (completed within the last five years)
- Clearly state the diagnosed disability or disabilities
- Describe the functional limitations resulting from the disability
- Describe the specific accommodations requested and the rationale for such accommodations
- Be typed or printed on official letterhead and signed by the evaluator qualified to make the diagnosis
- Include examples, when possible, of where special accommodations have been requested and granted. If no prior accommodations have been provided, the evaluator, psychologist, physician, or health care professional should include a detailed explanation as to why no accommodations were given in the past and why the accommodations are needed now.

The purpose of the documentation is to validate that the candidate is covered under the ADA as a disabled individual. Additional documentation may be required to support the request. All documentation submitted in support of a request for special accommodations will be kept confidential.

If you are pregnant, breastfeeding and/or pumping and accommodations are needed, please choose YES in the online application.

Requests for special accommodation must be received via upload in the application on or before Thursday, May 13, 2027.

Accommodations **MUST** be reviewed and approved prior to making an appointment with Pearson. If an appointment is scheduled and accommodations need to be added your appointment must be canceled.

(continued on next page)

Examination Information (continued)

Advanced PTEeXAM Content Outline for Exams Administered on or after January 1, 2027

- 01 Principles of Ultrasound
 - 01.A Nature of Ultrasound
 - 01.B Frequency, Wavelength, Speed of Sound in Tissue
 - 01.C Properties of Ultrasound Waves
 - 01.D Ultrasound/Tissue Interactions
- 02 Principles of Doppler Ultrasound
 - 02.A Doppler Effect
 - 02.B Doppler Equation
 - 02.C Doppler Shift Frequencies and Influencing Factors (e.g., transducer frequency, angle of beam incidence, flow velocity)
 - 02.D Pulsed-wave Doppler
 - 02.E Continuous-wave Doppler (e.g., range ambiguity)
 - 02.F Color flow Doppler (e.g., gain, variance, color maps)
 - 02.G Quantitative Doppler
- 03 Transducers
 - 03.A Piezoelectric Effect
 - 03.B Crystal Thickening and Resonance
 - 03.C Damping
 - 03.D Sound Beam Formation
 - 03.E Focusing
 - 03.F Spatial Resolution
 - 03.G Arrays
- 04 Equipment, Infection Control, and Safety
 - 04.A Biological Effects of Ultrasound
 - 04.B Electrical and Mechanical Safety
 - 04.C Infection Control
 - 04.D Safety of Probe Insertion and Manipulation
 - 04.E Contraindications to Transesophageal Echocardiography
 - 04.F Complications of Transesophageal Echocardiography
- 05 Principles of Imaging
 - 05.A Imaging Modalities
 - 05.B Image Optimization
- 06 Chamber Anatomy and Measurements
 - 06.A Cardiac Chambers and Walls
 - 06.B Timing of Cardiac Measurements to Cardiac Cycle
- 07 Global Ventricular Systolic Function and Pathology
 - 07.A Volumetric Measurements and Calculations (e.g. stroke volume and cardiac output)
 - 07.B Assessment of Left Ventricular Systolic Function
 - 07.C Assessment of Right Ventricular Systolic Function
 - 07.D Cardiomyopathies
- 08 Segmental Left Ventricular Systolic Function and Pathology
 - 08.A Myocardial Segment Identification
 - 08.B Coronary Artery Distribution and Flow
 - 08.C Normal and Abnormal Segmental Function
 - 08.D Left Ventricular Aneurysm
 - 08.E Left Ventricular Pseudoaneurysm
 - 08.F Left Ventricular Rupture
 - 08.G Ventricular Septal Defect Post Myocardial Infarction
- 09 Cardiac Valves
 - 09.A Principles of Valve Assessment (not valve specific)
 - 09.B Tricuspid Valve
 - 09.C Pulmonic Valve
 - 09.D Mitral Valve
 - 09.E Aortic Valve
 - 09.F Acquired Valve and Annular Diseases
- 010 Valve Repair and Replacement Assessment
 - 010.A Valve Repair Evaluation
 - 010.B Valve Replacement Evaluation (types and valve dysfunction)
- 011 Intracardiac Masses and Devices
 - 011.A Intracardiac Masses
 - 011.B Devices and Foreign Material
- 012 Vasculature
 - 012.A Pulmonary Arteries
 - 012.B Pulmonary Veins
 - 012.C Vena Cavae and Systemic Veins
 - 012.D Coronary Arteries
 - 012.E Aorta
- 013 Pericardium and Extracardiac Structures - Anatomy and Pathology
 - 013.A Pericardium and Pericardial Space
 - 013.B Pleural Space and Lung
 - 013.C Other Structures
- 014 Assessment of Perioperative Events
 - 014.A Causes of Cardiovascular Instability
 - 014.B Cardiopulmonary Bypass, including Minimally Invasive Management
 - 014.C Mechanical Circulatory Support
 - 014.D Transplantation Surgery
 - 014.E Assessment Related to Aortic Surgery
 - 014.F Assessment Related to Myectomy (ventricular septal defect)
- 015 Congenital Heart Disease
 - 015.A Identification of Morphologic Left and Right Structures
 - 015.B Assessment of Shunt (e.g. shunt fraction)
 - 015.C Atrial Septal Defects
 - 015.D Ventricular Septal Defects
 - 015.E Aortic Valve and Left Ventricular Outflow Tract Abnormalities
 - 015.F Anomalous Coronary Arteries
 - 015.G Congenital Abnormalities of the Aorta
 - 015.H Ebstein's Anomaly
 - 015.I Persistent Left Superior Vena Cava
 - 015.J Tetralogy of Fallot (and Sequelae)
 - 015.K Transposition of the Great Arteries
 - 015.L Atrioventricular Septal Defect (Common Artrioventricular Canal) including Cleft
 - 015.M Single Ventricle/Fontan
 - 015.N Cor Triatriatum and Other Congenital Atrial Abnormalities (e.g., supramitral membrane)
 - 015.O Double-chambered right ventricle/RVOT
- 016 Normal Anatomy/Variants Mistaken for Pathology
 - 016.A Chiari Network
 - 016.B Crista Terminalis
 - 016.C Eustachian Valve
 - 016.D Inverted/Bilobed Left Atrial Appendage
 - 016.E Lambd's Excrescences
 - 016.F Lipomatous Hypertrophy of the Atrial Septum
 - 016.G Pectinate Muscles
 - 016.H Coumadin Midge
 - 016.I Trabeculations, Muscle Bands, Moderator Band
 - 016.J Thebesian Valve
- 017 Artifacts
 - 017.A Two-Dimensional Imaging Artifacts
 - 017.B Three-Dimensional Imaging Artifacts
 - 017.C Doppler Artifacts
- 018 Related Diagnostic Modalities
 - 018.A Epiaortic Scanning
 - 018.B Epicardial Scanning
 - 018.C Contrast Echocardiography
 - 018.D TEE Compared to Other Imaging Modalities
- 019 Ventricular Diastolic Filling and Function
 - 019.A Basic Principles
 - 019.B Echocardiographic Assessment of Left Ventricular Diastolic Function
 - 019.C Grading of Left Ventricular Diastolic Function
 - 019.D Estimates of Left Ventricular Diastolic Filling Pressures
- 020 Structural Heart Disease and Other Hybrid Procedures
 - 020.A Atrial Septum
 - 020.B Ventricular Septum
 - 020.C Defect Closures
 - 020.D Left Atrial Appendage Occlusion (Watchman, Amulet, etc.)
 - 020.E Aortic Valve
 - 020.F Mitral Valve
 - 020.G Pulmonic Valve and Pulmonary Artery
 - 020.H Tricuspid Valve
 - 020.I Mechanical Thrombectomy
 - 020.J Endovascular

Reference Statement

NBE does not endorse or recommend any third-party review course or material. Any text in cardiovascular techniques and evaluation, cardiac patient care, and management may be used. Current standards and guidelines endorsed by professional societies are also appropriate.

Exam and Test Center Policies and Procedures

Admission to the Test

You should arrive at the Pearson test center 30 minutes before your scheduled testing time on your testing date. If you arrive late, you may not be admitted. If you arrive more than 30 minutes after your scheduled testing time, you will not be admitted.

Please visit <https://home.pearsonvue.com/Test-takers/Resources.aspx> for Pearson exam day policies, procedures and test center expectations.

Testing Regulations and Rules of Conduct

Test center staff monitors all testing sessions for the examination. You must follow instructions of test center staff throughout the examination. Failure to do so may result in a determination of irregular behavior.

Test center staff are not authorized to answer questions from candidates regarding examination content, testing software, or scoring.

If staff observe you violating test administration rules or engaging in other forms of irregular behavior during the examination, the center staff will not necessarily tell you of the observation at the time of the examination. You may not bring any personal belongings in to the testing area. If you bring any personal belongings to the test center, you must store them in a designated locker outside the testing area. Personal items and their contents may be subject to inspection. Any materials that reasonably appear to be reproductions of any NBE examination materials will be confiscated. Making notes of any kind during the examination, except on the materials provided by the test center for this purpose, is not permitted. Removal of those materials from the secure testing area is prohibited.

For your examination, you may bring cordless soft-foam earplugs into the testing room. However, they must be out of the packaging and ready for inspection by test staff during check-in. Earplugs must be left at the workstation during all breaks.

Exam Administration

Occasionally issues arise in the creation, administration and scoring of examinations. For example, power failures, hardware and software problems, human error, or weather problems may interfere with some part of the examination process or delay the reporting of scores. When such problems arise, NBE may provide the affected candidates with an opportunity to take the examination at the next scheduled examination date. This shall be the candidate's sole remedy. NBE shall not be liable to any candidate for inconvenience, expense, or other damage, including administration, scoring of an examination, or delays in score reporting. In no circumstance will NBE reduce its standards or overturn the candidate's score as a means of correcting a problem in examination administration. Issues or problems arising during the administration of the examination must be reported to Pearson test center staff by the candidate experiencing the issue or problem at the time the exam is being administered and prior to the candidate departing the test center site on the day the examination is scheduled. Candidates must also notify NBE of any issues or problems with the administration of the examination within 48 hours of candidate's scheduled examination time.

In the rare event of a technical problem, testing software is designed to allow the test to restart at the point it was interrupted. In most cases, the test can be restarted at the point of interruption with no loss of testing time.

Exam Administration Grievance Policy

If you wish to file a grievance regarding the administration of your examination, you must submit, in writing via email, to examination@echoboards.org, a detailed description of the grievance(s) that occurred. You will have three (3) business days after completion of your NBE exam.

Confirmation of receipt of your exam grievance will be sent to you via email. NBE staff will review your submitted documentation and investigate your concerns within 7 to 10 business days. You may be contacted to provide additional information regarding your grievance. It may be necessary for your grievance to be forwarded to outside vendors which could take longer for review and resolution. You will be notified via email of the decision regarding your exam grievance once completed.

Approved NBE Exam Candidates

Upon the approval of an application, candidates are emailed an Authorization to Test (ATT) notification which will include your 1-day eligibility window to take the examination. The ATT provides instructions and details for scheduling your test date and location.

NBE's examinations are administered on only 1 day at over 230 Pearson Professional Centers (PPC) in the United States and US territories and over 3,000 Pearson Authorized Test Centers (PATC) internationally. Examination site availability is provided when scheduling your examination with Pearson. Do not contact Pearson until you have received an Authorization to Test (ATT). Available sites may be viewed at www.pearsonvue.com/nbe.

IMPORTANT: While the NBE tries to accommodate location preferences, preferred testing sites are NOT guaranteed, and travel may be necessary.

Appointment Modifications

Modifications (reschedule/cancel) to scheduled exam appointments MUST be made no less than a full 48 hours before the appointment time. Exam appointments cannot be modified less than 48 hours before (within 48 hours of) the scheduled appointment time. Please contact NBE directly at examination@echoboards.org if an event arises that requires an appointment to be modified less than 48 hours before the scheduled time.

- **Via phone** (10 USD fee): Call (800) 869-4102, 7:00 am to 7:00 pm, Central Standard Time, Monday through Friday (Outside of the U.S. (952) 681-3789).
- **Via internet** (no fee): Go to www.pearsonvue.com/nbe

Exam Day

The only people admitted into the examination room are

1. Test Administrators
2. Authorized Candidates

Identification (ID) Requirements

- The first and last name that the candidate uses to register must match exactly the first and last name on both ID's that are presented on test day.
- All ID's required must be issued by the country in which the candidate is testing. If the candidate does not have a qualifying primary ID issued from the country they are testing in, an International Travel Passport from their country of citizenship is required, along with a secondary ID.
- Candidate is required to present two forms of original (no photo copies), valid (unexpired) ID's; one form as a primary ID (government issued with name, recent recognizable photo, and signature) and one form as a secondary ID (with at least a name and signature, or name and recent recognizable photo).

Primary ID:

- International Travel Passport
- Driver's license
- Military ID (including spouse & dependents)
- Identification card (national/state/province identity card)
- Alien registration card (green card, permanent resident, visa)
- Local language ID (not in Roman characters) – accepted only if issued from the Country the Candidate is testing in

Secondary ID:

- Any ID containing at least name and signature, or name and recent recognizable photo that meets above ID requirement
- In Japan, a valid Blue Japanese Health Card is acceptable

[Click here to view Pearson ID Policy.](#)